

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each.

- 1 1. (Previously Presented) A data processing device including:
 - 2 a processor;
 - 3 a charge storage device coupled to the processor;
 - 4 a current source for supplying the processor with substantially constant
 - 5 operating current at multiple nonzero current levels, and adapted to vary its
 - 6 output current independently of an instantaneous power demand of the
 - 7 processor by switching either periodically or aperiodically between the multiple
 - 8 nonzero current levels.
- 1 2. (Currently Amended) The device of claim 1 wherein in which the charge
- 2 storage device comprises a capacitor in series with the current source, and
- 3 across which the processor is connected in parallel.
- 1 3. (Currently Amended) The device of claim 1 wherein in which the current
- 2 source is adapted to periodically or aperiodically switch between two different
- 3 nonzero current levels.
4. (Canceled)

- 1 5. (Currently Amended) The device of claim 3 wherein in which the current
- 2 source determines the interval between switching current levels based on is
- 3 determined by an average power demand of the processor.

- 1 6. (Currently Amended) The device of claim 1 wherein in which the current
- 2 source further comprises:
- 3 a second current source adapted to provide a noise current that varies on
- 4 a random or pseudo-random basis.

- 1 7. (Currently Amended) The device of claim 1 further including a control means
- 2 for the current source adapted to maintain the supply voltage to the processor
- 3 between an upper voltage limit and a lower voltage limit.

- 1 8. (Currently Amended) The device of claim 1 further including a zener diode
- 2 adapted to maintain the supply voltage to the processor between an upper
- 3 voltage limit and a lower voltage limit.

- 1 9. (Currently Amended) The device of claim 7 wherein in which the control
- 2 means includes a current switching means for switching the current source
- 3 between a first, higher current level and a second, lower current level, the
- 4 current level switching being triggered by the supply voltage to the processor
- 5 respectively reaching the lower voltage limit and the upper voltage limit.

- 1 10. (Original) The device of claim 9 further including a timer for determining a
2 time period taken for the processor supply voltage to reach a lower voltage limit
3 from an upper voltage limit, or vice versa.

- 1 11. (Currently Amended) The device of claim 10 further including current
2 setting means for varying at least one from among the first current level and
3 and/or the second current level of the current source if the timer determines
4 that the time period falls outside the predetermined limits.

- 1 12. (Currently Amended) The device of claim 11 wherein the predetermined
2 limits include a first predetermined threshold, and wherein in which the
3 current setting means raises the first current level if the timer determines that
4 the time period for reaching the lower voltage limit falls below the [[a]] first
5 predetermined threshold.

- 1 13. (Currently Amended) The device of claim 11 wherein the predetermined
2 limits include a second predetermined threshold, and wherein in which the
3 current setting means reduces the first current level if the timer determines
4 that the time period for reaching the lower voltage limit exceeds the [[a]] second
5 predetermined level.

- 1 14. (Currently Amended) The device of claim 11 wherein the predetermined
2 limits include a first predetermined threshold, and wherein in which the
3 current setting means reduces the second current level if the timer determines

4 that the time period for reaching the upper voltage limit exceeds the [[a]] first
5 predetermined level.

1 15. (Currently Amended) The device of claim 11 wherein the predetermined
2 limits include a second predetermined threshold, and wherein in which the
3 current setting means raises the second current level if the timer determines
4 that the time period for reaching the upper voltage limit exceeds the [[a]] second
5 predetermined level.

1 16. (Currently Amended) The device of claim 9 wherein in which the control
2 means includes means for temporarily inhibiting the current switching means if
3 the supply voltage to the processor fails to move towards the desired upper
4 voltage limit or the lower voltage limit.

1 17. (Currently Amended) The device of claim 1 wherein in which the processor
2 has an internal clock having a , the frequency that of which is dependent upon
3 the supply voltage to the processor.

1 18. (Currently Amended) The device of claim 1 wherein in which the processor
2 is a cryptographic processor.

1 19. (Currently Amended) The device of claim 1 further comprising a
2 incorporated into a smart card supporting the processor, the charge storage
3 device, and the current source.

1 20. (Currently Amended) A method of operating a data processing device
2 comprising the steps of:
3 drawing current from the an external power supply; and
4 utilizing the drawn current, [[to]] generating and cyclically apportioning
5 a substantially constant current flow from a current source between a charge
6 storage device and a processor within the data processing device,
7 wherein the substantially constant current flow that is periodically or
8 aperiodically switched between multiple different nonzero current levels, such
9 that the drawn current varies independently of the instantaneous power
10 demand of the processor.

1 21. (Currently Amended) The method of claim 20 wherein further including the
2 step of utilizing the drawn current for generating and apportioning generate a
3 current flow to the processor and the charge storage device switches, that is
4 periodically or aperiodically, switchehd between two different nonzero current
5 levels.

22. (Canceled)

1 23. (Currently Amended) The method of claim 21 wherein further including the
2 step of generating and apportioning a current flow includes determining the
3 interval between switching according to an average power demand of the
4 processor.

1 24. (Currently Amended) The method of claim 20 wherein the step of generating
2 and apportioning a current flow utilizes a first current source, and further
3 includes including the steps of:

4 utilizing a second current source to provide a superposed current that
5 varies on a random or pseudorandom basis and
6 delivering the combined current of the first and second current sources to
7 the processor and the charge storage device.

1 25. (Previously Presented) The method of any one of the claims 20, 21, 23, and
2 24 further including the step of maintaining a supply voltage to the processor
3 between an upper voltage limit and a lower voltage limit.

1 26. (Currently Amended) The method of claim 25 wherein further including the
2 step of generating and apportioning a current flow switches the switching a
3 current source between a first, higher current level and a second, lower, current
4 level, when the supply voltage to the processor respectively reaches the lower
5 voltage limit and the higher voltage limit.

1 27. (Currently Amended) The method of claim 26 wherein the step of generating
2 and cyclically apportioning a current flow further includes including the steps
3 of:
4 determining a time period taken for the processor supply voltage to reach
5 a lower voltage limit from an upper voltage limit, or vice versa, and

6 varying the first current level and/or the second current level of the
7 current source if the time period falls outside predetermined limits.

1 28. (Currently Amended) The method of claim 27 wherein said step of varying
2 further includes including the step of raising the first current level if the time
3 period for reaching the lower voltage limit falls below a first predetermined
4 threshold.

1 29. (Currently Amended) The method of claim 27 wherein said step of varying
2 further includes including the step of reducing the first current level if the time
3 period for reaching the lower voltage limit exceeds a second predetermined
4 threshold.

1 30. (Currently Amended) The method of claim 27 wherein said step of varying
2 further includes including the step of reducing the second current level of the
3 time period for reaching the upper voltage limit falls below a first
4 predetermined threshold.

1 31. (Currently Amended) The method of claim 27 wherein said step of varying
2 further includes including the step of raising the second current level if the time
3 period for reaching the upper voltage limit exceeds a second predetermined
4 threshold.

- 1 32. (Currently Amended) The method of claim 26 further including the step of
 - 2 temporarily inhibiting the current switching if the supply voltage to the
 - 3 processor fails to move towards the ~~desired upper voltage limit or the lower~~
 - 4 voltage limit.
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- 1 33. (Original) The method of claim 20 further including the step of controlling
 - 2 the frequency of operation of the processor as a function of the supply voltage to
 - 3 the processor.

34-35. (Canceled)

- 1 36. (Currently Amended) The method of claim 28 ~~wherein said step of varying~~
- 2 further includes including the step of reducing the first current level if the time
- 3 period for reaching the lower voltage limit exceeds a second predetermined
- 4 threshold.